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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|--------------------------|
| 10/811,999 | 03/30/2004 | Kenichi Shirasaka | X2007.0158 | 2679 |
| 32172 | 7590 | 11/28/2005 | EXAMINER | |
| DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 1177 AVENUE OF THE AMERICAS (6TH AVENUE) 41 ST FL. NEW YORK, NY 10036-2714 | | | | PIZARRO CRESPO, MARCOS D |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2814 | |

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/811,999 | SHIRASAKA, KENICHI |
| Examiner | Art Unit | |
| Marcos D. Pizarro-Crespo | 2814 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 November 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,4-9 and 11 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 3,10 and 12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 March 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/23/04, 3/30/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

Attorney's Docket Number: X2007.0158

Filing Date: 3/30/2004

Claimed Foreign Priority Date: 4/2/2003 (JP 2003-099126)

Applicant(s): Shirasaka

Examiner: Marcos D. Pizarro-Crespo

DETAILED ACTION

This Office action responds to the election/amendment filed on 11/10/2005.

Election/Restrictions

1. Applicant's election of claims 3, 10, and 12 in the reply filed on 11/10/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election--without--traverse--(MPEP § 818.03(a)). Accordingly, claims 4 and 11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Acknowledgment

2. The amendment filed on 11/10/2005, responding to the Office action mailed on 8/10/2005, has been entered. The present Office action is made with all the suggested amendments being fully considered. Accordingly, pending in this Office action are claims 1-12.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. Figures 13-15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters **21** (see, e.g., fig. 1) and **17** (see, e.g., fig. 2) have both been used to designate the same through-hole.
6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frezza (US 6909166) in view of Harper.

9. Regarding claims 10 and 12, Frezza (see, e.g., fig. 7) teaches a manufacturing method for a semiconductor package comprising the steps of:

- ✓ Forming a lead frame by processing a thin plate (see, e.g., col.4/II.63-67),

wherein the lead frame comprises:

- A stage **70** for mounting a semiconductor chip **12** thereon
- A plurality of groups of leads **71** arranged in a periphery of the stage **70**
- A plurality of lead interconnection members for interconnecting a plurality of leads in each of the group of leads (see, e.g., fig. 9)

- ✓ Mounting the chip on the stage of the lead frame via bonding (see, e.g., fig. 2)
- ✓ Wiring the chip to the plurality of leads (see, e.g., fig. 2)
- ✓ Forming a molded resin **61** for integrally fixing the chip, the stage, and the leads therein (see, e.g., figs. 2 and 7)
- ✓ Plating prescribed surfaces of the leads that are exposed to an exterior of the resin (see, e.g., col.5/II.41-42)

- ✓ Cutting the leads **71** at a plurality of cutting lines **34** so that the leads **71** are made electrically independent of each other (see, e.g., figs. 9 and 10)

Wherein:

- ✓ A through hole is formed in each lead in a thickness direction of the lead frame so as to allow the cutting lines to pass therethrough (see, e.g., figs. 9 and 10)
- ✓ The through holes are formed at a selected timing within a prescribed time period counting from a timing of forming the lead frame to a timing of plating the leads (see, e.g., col.5/ll.45)

Frezza, however, fails to specify that the lead frame be made of metal. Harper (see, e.g., pp.6.18/par.3), on the other hand, teaches that leadframes are usually made of a copper alloy for better thermal performance.

It would have been obvious at the time of the invention to one of ordinary skill in the art to have Frezza's lead frame made of the metal suggested by Harper for better thermal performance.

10. Regarding claim 10, Frezza shows the through holes are formed by etching (see, e.g., col.5/ll.45).

Conclusion

11. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. Papers should be faxed to Art Unit 2814 via the Art Unit 2814 Fax Center. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2814 Fax Center

number is **(571) 273-8300**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

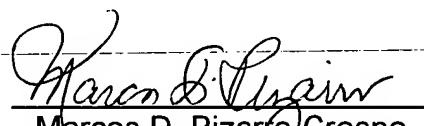
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Marcos D. Pizarro-Crespo** at **(571) 272-1716** and between the hours of 9:30 AM to 8:00 PM (Eastern Standard Time) Monday through Thursday or by e-mail via Marcos.Pizarro@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy, can be reached on (571) 272-1705.

13. Any inquiry of a general nature or relating to the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2814

14. The following list is the Examiner's field of search for the present Office Action:

| Field of Search | Date |
|--|------------|
| U.S. Class / Subclass(es): 257/666-796 | 11/22/2005 |
| Other Documentation: | |
| Electronic Database(s): EAST (USPAT, EPO, JPO) | 11/22/2005 |



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MDP/mdp
November 22, 2005